



EUDAT Aalto Data Repository Pilot



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- EUDAT is a large European project building research data management infrastructure
- Aalto Data Repository is one of 20+ EUDAT Data Pilots
- The pilot has started in Jan 2016, and it pilots the use of EUDAT services by Aalto researchers
- Main focus is on usability testing of the EUDAT services from Aalto researcher perspectives
- Recommendations based on the pilot experience on which Aalto user groups to recommend EUDAT for

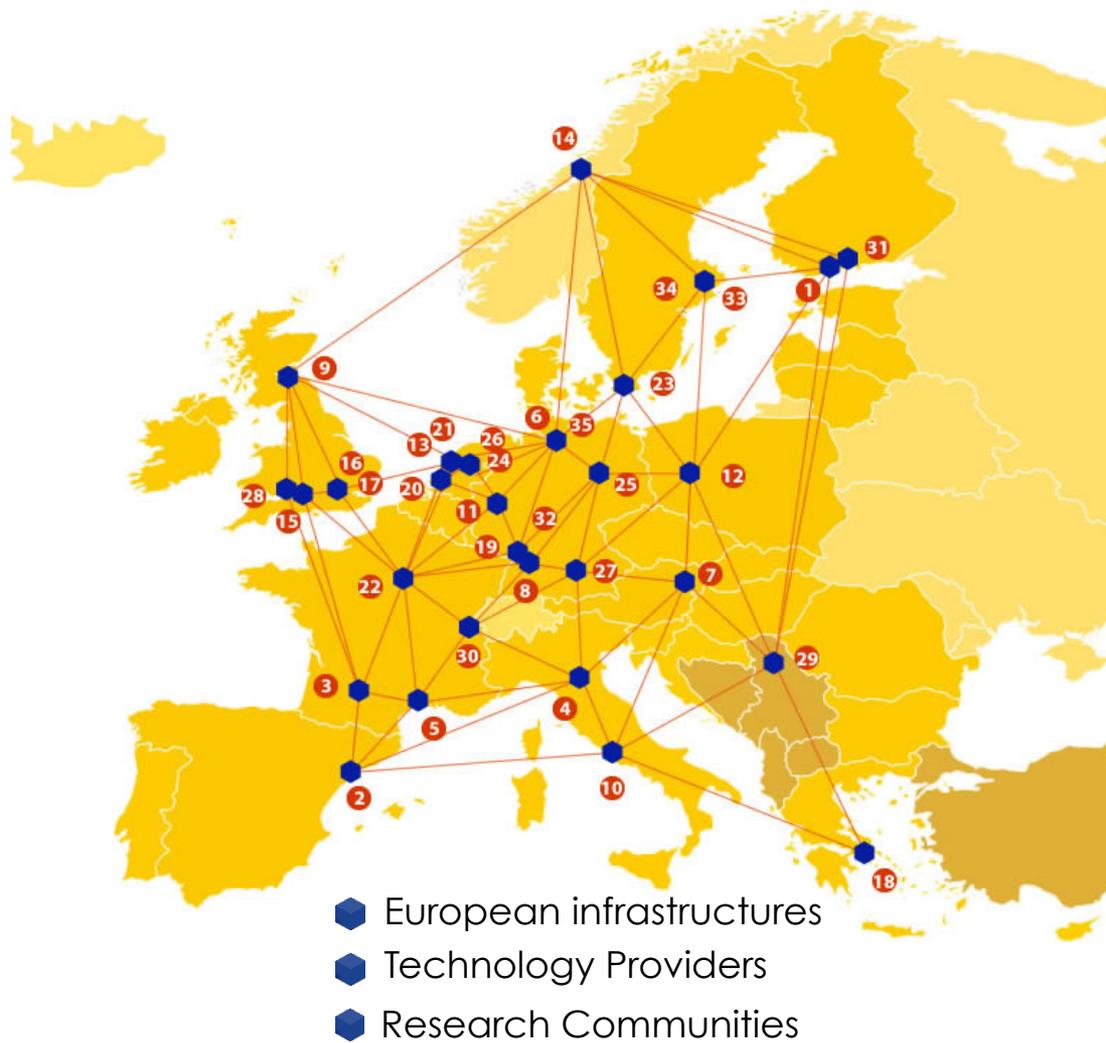
Motivations for EUDAT

- Potential for European level visibility of published datasets
- Long term viability through a large EU level consortium, long term metadata (and hopefully also data) storage plans of the consortium, including CSC in Finland
- Possibility to both store data and publish metadata in the same B2SHARE interface
- Features for collaboration and file sharing through B2DROP
- Possibility to use national (ATT) metadata formats, allowing for metadata harvesting by Acaa

EUDAT: A truly pan-European Infrastructure

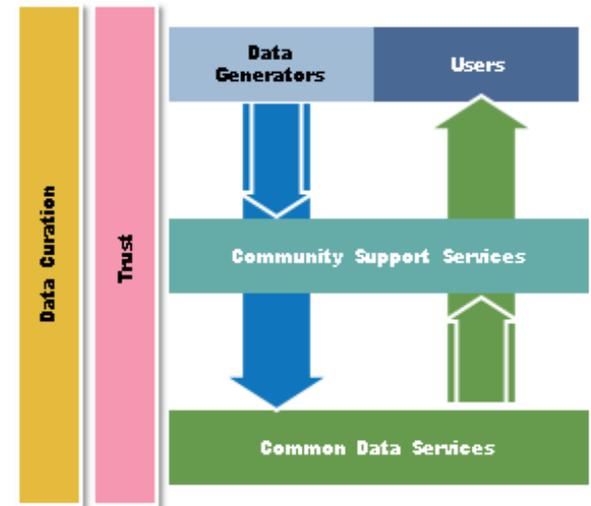
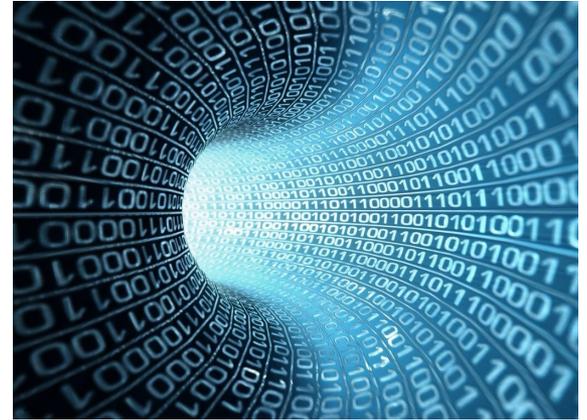
EUDAT offers **common data services** to both **research communities and individuals** through a network of **35 European organisations**.

EUDAT wants to enable **European researchers from any discipline** to **preserve, find, access, and process data** in a trusted environment, as part of a **Collaborative Data Infrastructure**.

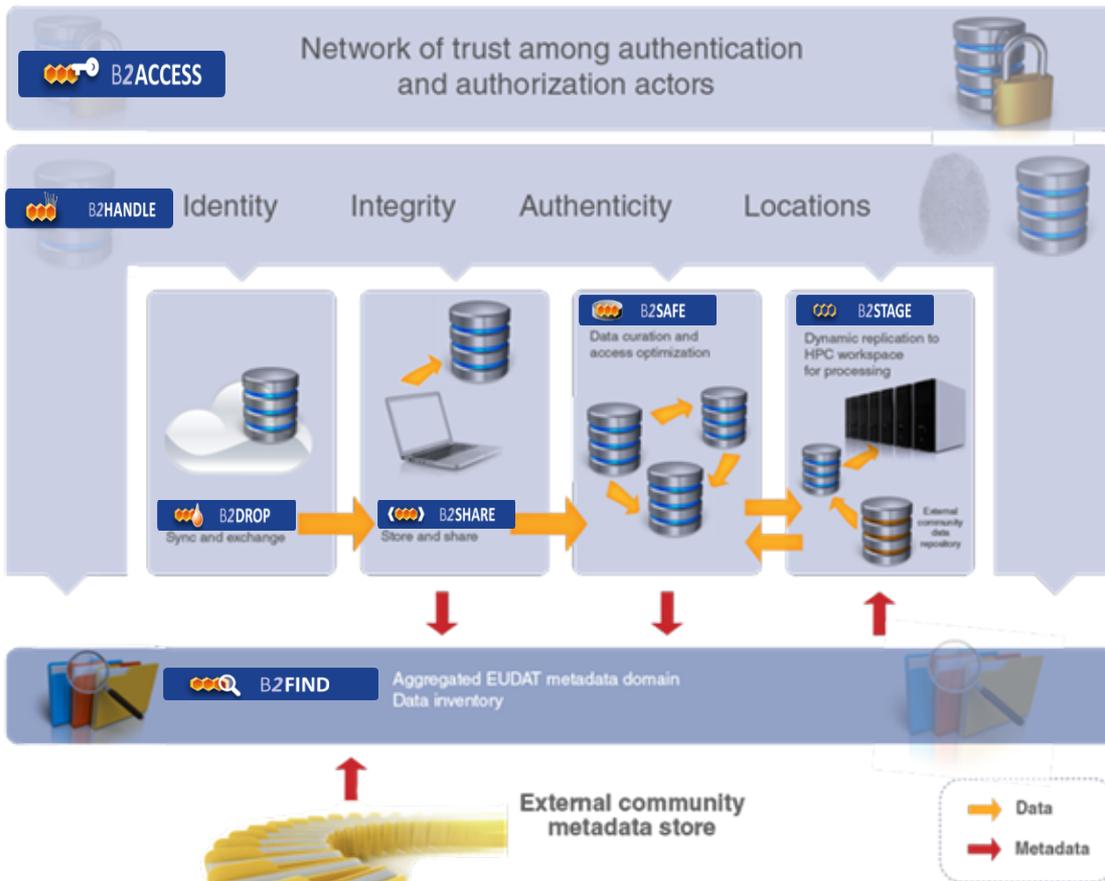


EUDAT Vision & Mission

- **Vision:** *Data is shared and preserved across borders and disciplines thereby enhancing the value and quality of research at large.*
- **Mission:** *To enable data stewardship within and between European Research Communities through a Collaborative Data Infrastructure, a common model and service infrastructure for managing data spanning all European research data centres and community data repositories.*



Covering both **access** and **deposit**, from **informal data sharing** to **long-term archiving**, and addressing **identification**, **discoverability** and **computability** of both **long-tail** and **big data**, EUDAT services seek to **address the full lifecycle of research data**



B2DROP
Sync and Exchange Research Data

B2SHARE
Store and Share Research Data

B2SAFE
Replicate Research Data Safely

B2STAGE
Get Data to Computation

B2FIND
Find Research Data

B2HANDLE
Register your Research Data

B2ACCESS
Identity & Authorisation

Building solutions with the communities

EUDAT services (*B2 Service Suite*) are **designed, built and implemented together with user communities.**



- Common Language Resources and Technology Infrastructure (CLARIN)



- European Network for Earth System Modelling (ENES)



- Distributed infrastructure for life-science information (ELIXIR)



- European Plate Observing System (EPOS) - Solid Earth sciences Research Infrastructure



- Integrated Carbon Observation System (ICOS) to quantify & understand greenhouse gas balance



- Long-Term Ecosystem Research (LTER) in Europe

The Challenges

- Data science is one of the focus areas of Aalto, data sets include next generation sequencing, social media, brain images, etc.
- Aalto has defined its research data management policy and EUDAT is one of the main candidates to implement a research data management platform
- Currently there is no research data management platform in wide use, which limits the visibility of Aalto as source for scientific data

Aalto Data Repository Pilot

- ❖ Purpose: to build a Research Data Management Suite Pilot that would cover the Aalto research data management needs.
- ❖ This will host both data and metadata: the name, description, ownership, source, and information on usage.
- ❖ Other dataset hosting sites exist, so our main target use case expanding EUDAT scope is intra-Aalto University interaction.
- ❖ Researchers with data analysis skills will be able to find data related to their work, as well as the domain experts responsible for that data.
- ❖ Furthermore the solutions should be tightly integrated to national data infrastructures

EUDAT service uptake

The Aalto Data Repository Pilot will rely on the following EUDAT services:

- Repository for shareable digital objects (B2SHARE) as a way to both store and find datasets in the European context.
- Secure and trusted cloud storage (B2DROP) to be used for inter-project collaborations



EUDAT User Experience Testing at Aalto

- Overall, B2FIND and B2DROP received positive responses from test users.
- Usefulness of B2FIND depends on how many datasets are available online that can be found.
- B2DROP can be used as alternative solution of existing solutions, such as shared hard disk, internal server, and other commercial cloud storage services (e.g., DropBox).
- B2SHARE needs usability improvements before it is ready to be used by a large number of researchers.
- We are looking to B2SHARE v. 2.0 improvements.

Conclusions

- ◆ Aalto is piloting EUDAT solutions for research data management
- ◆ Other alternative systems considered are Acris (Elsevier Pure), Dataverse, and Zenodo.
- ◆ European level visibility to data sets is vital for researchers, as are DOIs for improved citability
- ◆ Having a single interface to store both data and metadata in a single system is vital for usability
- ◆ Long term storage of metadata and data needs a large consortium to obtain sustained funding
- ◆ Usability of software is vital to obtain large scale adoption, also handling of data that has access restrictions should be possible through the same system
- ◆ We are using ATT research metadata definitions to allow for integration to national metadata management such as ATT Etsin

References

- Master's Theses evaluating different possible solutions to Research Data Management at Aalto:
- [Miro Nurmela: Aalto Data Repository - Research data management, sharing and publishing in the world of data intensive science](#), Dec 2015.
- Taufik Sitompul: Usability and User Experience Evaluation of EUDAT Services - Use Case: Aalto Data Repository, Master's Thesis (draft), Aug 2016.



For additional information



<http://www.eudat.eu/>



<http://www.aalto.fi/en/>

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